

INTERIM STATUS CLOSURE PLAN SOLID WASTE MANAGEMENT UNIT 16

U.S. DEPARTMENT OF ENERGY

Rocky Flats Plant
Transuranic Mixed Wastes

CO7890010526



Rockwell International
Aerospace Operations
Rocky Flats Plant

SEPTEMBER 1989

ADMIN RECORD

A-SW-000362

REMOVED FOR CLASSIFICATION/EXEMPT

By L. R. [signature] (LWRP)
Date 4/21/92

**INTERIM STATUS CLOSURE PLAN
SOLID WASTE MANAGEMENT UNIT 16**

**For U.S. D O E. - Rocky Flats Plant
Hazardous and Radioactive Mixed Wastes**

C07890010526

September 1989

Rockwell International

**Reviewed for Classification
by Barbara Kerr Greer
Date September 19, 1989**

TABLE OF CONTENTS

SECTION	PAGE
Regulatory Checklist for Drum Storage Area	v
1 0 INTRODUCTION	1
1 1 Plant Location and Mission	1
1 2 Interim Status Closure Plan Purpose	1
2 0 FACILITY DESCRIPTION	3
2 1 Facility Location and Specifications	3
2 2 Facility Operation	3
2.2.1 Periods of Operation	3
2.2.2 Maximum Waste Inventory	3
2.2.3 Types of Waste Managed	3
2.2.4 Waste Handling Description	6
2.2.5 Monitoring and Containment Systems	6
2.2.6 Releases	6
3 0 INTERIM STATUS CLOSURE PLAN SUMMARY	6
3 1 Closure Activities	6
3 2 Interim Status Closure Plan	7
3 3 Closure Schedule	7
3 4 Administration of Interim Status Closure Plan	7
4 0 REMOVAL OF HAZARDOUS WASTE INVENTORY	7
5 0 DECONTAMINATION	8
5 1 Decontamination of Unit 16	8
5 2 Decontamination Performance Criteria	8
5 3 Decontamination of Auxiliary Equipment	8
5 4 Decontamination of Equipment Used During Closure	9
5 5 Contaminated Soils	9
5 6 Removal of Hazardous Waste Residues	9
6 0 SAMPLING AND ANALYTICAL METHODS	9
6 1 Sampling Procedures	9
6 2 Analytical Methods	10
7 0 CLOSURE SCHEDULE	10
8 0 CLOSURE COST AND FINANCIAL ASSURANCE	10

TABLE OF CONTENTS (CONTINUED)

SECTION	PAGE
90 SITE ACCESS AND SECURITY	10
100 HEALTH AND SAFETY	10
110 POST-CLOSURE MONITORING	10
120 CLOSURE CERTIFICATION .	11
130 REFERENCES	11

CO7890010526

REGULATORY CHECKLIST FOR DRUM STORAGE AREA

6 CCR 1007-3 PART/REQUIREMENT	{40 CFR} [SECTION]	CLOSURE PLAN SECTION
----------------------------------	-----------------------	-------------------------

<u>Closure Performance Standard</u> 265.111	[265.111]	3.1
--	-----------	-----

The owner or operator must close his facility in a manner that:

- a. Minimizes the need for further maintenance; and
- b. Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground or surface water or to the atmosphere; and
- c. Complies with the closure requirements of this Subpart including, but not limited to the requirements of Sections 265.197, 265.228, 265.258, 265.280, 265.310, 265.351, 265.381, and 265.404.

Detailed Description of Steps Necessary to Close the Storage Facility:
265.112(b)1 [265.112(b)1]

Content of Plan. The plan must identify the steps necessary to perform partial and/or final closure of the facility at any point during its active life. The closure plan must include, at least:

- 1. A description of how each hazardous waste management unit at the facility will be closed in accordance with Section 265.111; and

3.2, 4.0 5.0,
6.0, 7.0

Identification of Maximum Extent of Operation of the Storage Facility:
265.112(b)2 [265.112(b)2] 2.2

2. A description of how final closure of the facility will be conducted in accordance with Section 265.111. The description must identify the maximum extent of the operations which will be unclosed during the active life of the facility; and

Removal and Management of Hazardous Wastes:

Estimate of Maximum Inventory of Hazardous Waste in the Storage Facility:
265.112(b)3 [265.112(b)3] 2.2.2

3. An estimate of the maximum inventory of hazardous wastes ever on-site over the active life of the facility and a detailed description of the methods to be used during partial closures and final closure, including, but not limited to, methods for removing, transporting, treating, storing, or disposing of all hazardous wastes, and identification of the types(s) of the off-site hazardous waste management units to be used, if applicable; and

Detailed Description of Removal of Hazardous Waste Inventory:
265.112(b)3 [265.112(b)3] 4.0

265.114 [265.114] 4.0

When closure is completed, all facility equipment and structures must have been properly disposed of, or decontaminated by removing all hazardous waste and residues.

Identification and Type of Off-Site Hazardous Waste Management Unit(s):
265.112(b)3 [265.112(b)3] 5.0

Decontamination and Removal of Hazardous Waste Residues:Criteria for Determining the Extent of Decontamination Necessary:

265.112(b)4

[265.112(b)4]

6.1

A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure, including but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination necessary to satisfy the closure performance standard;

Detailed Description of Decontamination Steps:

265.112(b)4

[265.112(b)4]

6.0

Procedures for Cleaning Equipment and Structures and Removing Contaminated Soils, and Detailed Description of Decontamination:

265.112(b)4

[265.112(b)4]

6.0

265.114

[265.114]

A Detailed Description of Removal of Contaminated Equipment and Hazardous Waste Residues:

265.112(b)4

[265.112(b)4]

6.3, 6.4, 6.6

265.114

[265.114]

Methods for Sampling and Testing to Demonstrate Success of Decontamination:

265.112(b)4

[265.112(b)4]

7.0

265.114

[265.114]

Detailed Closure Schedule:

265.112(b) 6

[265.112(b) 6]

8.0

A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover must be included.);

Time Allowed for Closure:

265.113b

[265.113b]

8.0

The owner or operator must complete closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of wastes or 180 days after approval of the closure plan, if that is later. The Department may approve a longer closure period using the procedures under 265.112(c) if the owner or operator demonstrates that;

- 1.i. The closure activities will, of necessity, take him longer than 180 days to complete;
 - ii.A. The facility has the capacity to receive additional waste;
 - B. There is a reasonable likelihood that a person other than the owner or operator will recommence operation of the site;
 - C. Closure of the facility would be incompatible with continued operation of the site; and
2. He has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but inactive facility.

Certification of Closure:

265.115

[265.115]

13.0

Certification of Closure. When closure is completed, the owner or operator must submit to the Department certification both by the owner or operator and by an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan.

Closure Cost Estimates. Financial Assurance and Liability Coverage:

266.12

[265.142]

9.0

a. The owner or operator must prepare a written estimate, in current dollars, of the cost of closing the facility in accordance with the closure plan as specified in 264.112. The closure cost estimates must equal the cost of closure at the point in the facility's operating life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan.

b. During the operating life of the facility, the owner or operator must adjust annually the closure cost estimates. The adjustment must be made using an inflation factor derived from the annual Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce in its Survey of Current Business. The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year. Adjustments to the cost estimates are made by multiplying the latest closure cost estimate by the latest inflation factor. Facilities using a financial mechanism other than the financial test or corporate guarantee should use the deflator published close to the anniversary date of the instrument. Facilities using the financial test or corporate guarantee should use the deflator published nearest the fiscal year end reporting date required by 266.14(i)5. The adjust closure cost (ACC) estimate is calculated as follows:

6 CCR 1007-3

PART/REQUIREMENT

[40 CFR]
[SECTION]

CLOSURE PLAN
SECTION

ACC=CCC x IF

ACC= Adjusted closure cost,

CCC= Current closure cost estimate as determined in paragraph (a) above.

IF = Inflation factor = LPD/PYD

LPD= Latest published Deflator

PYD= Previous year's Deflator

c. The owner or operator must revise the closure cost estimate whenever a change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in 266.12(b)

x d. The owner or operator must keep the following at the facility during the operating life of the facility: The latest closure cost estimate prepared in accordance with 255.12(a) and (c) and, when this estimate has been adjusted in accordance with 266.23(b), the latest adjusted closure cost estimate.

LIST OF TABLES

TABLE NO.	TITLE	PAGE
1	Wastes Approved for Storage in Unit 16	4

LIST OF FIGURES

FIGURE NO.	TITLE	PAGE
1	Vicinity Map	2
2	Rocky Flats Plant Controlled Area	5
3	Unit 16 Drum Storage Area	6

**INTERIM STATUS CLOSURE PLAN FOR
SOLID WASTE MANAGEMENT UNIT NO. 16
BUILDING 980**

1.0 INTRODUCTION

1.1 Plant Location and Mission

The U.S. Department of Energy's Rocky Flats Plant is located in north-central Colorado, northwest of the City of Denver (Figure 1). The plant is located in Sections 1 through 4 and 9 through 15 of T 1 S, R 70 W. The facility's EPA identification number is CO 7890010526. The mailing address is:

U.S. Department of Energy
Rocky Flats Plant
P.O. Box 928
Golden, CO 80402

The facility contact is:

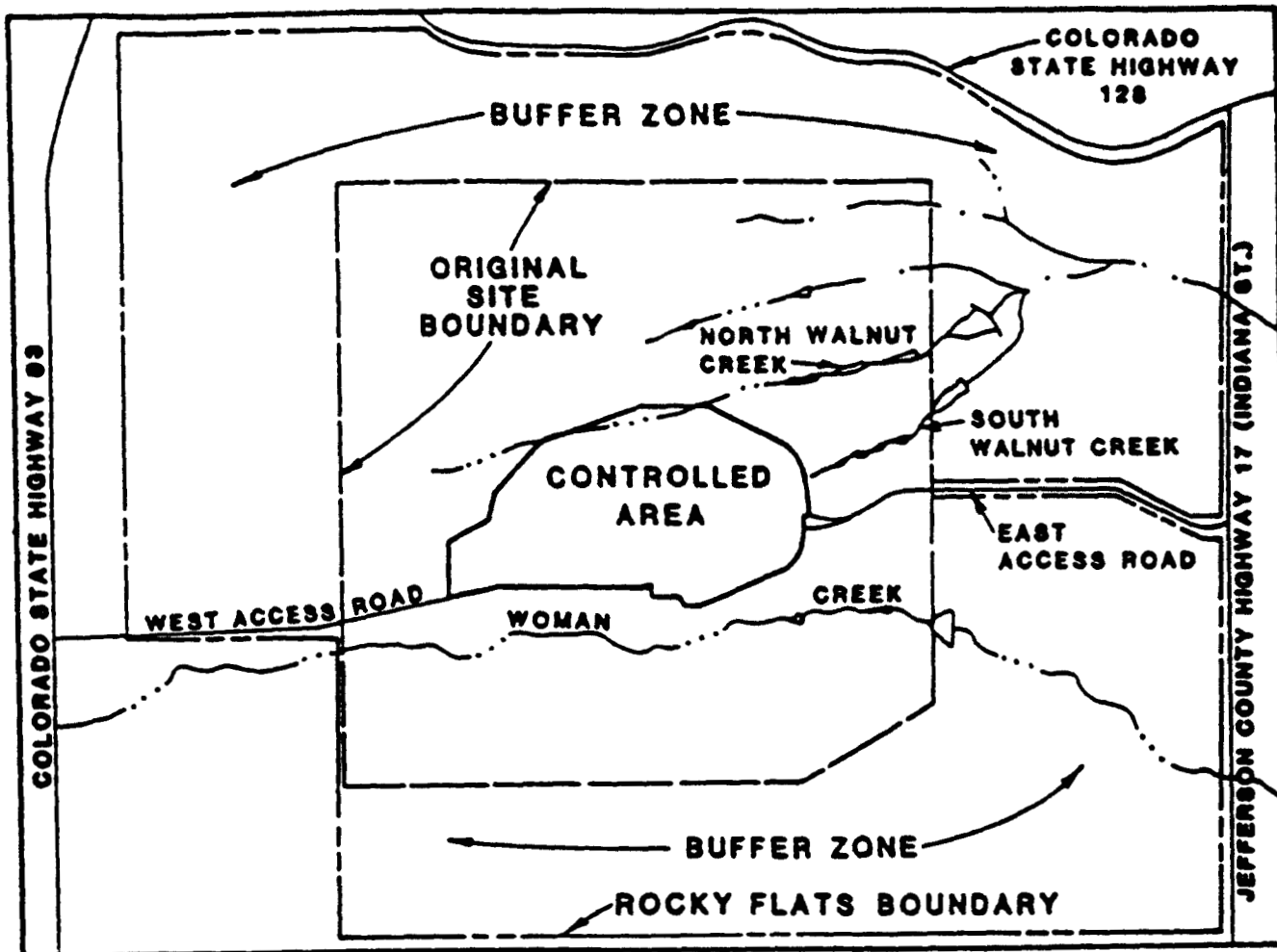
Mr. David P. Simonson, Manager
Phone: 303-966-2025

Rockwell International is the prime operating contractor for the Rocky Flats Plant (since June 1975) under the general direction of the U.S. Department of Energy (DOE), Rocky Flats Area Office, which in turn, reports to the U.S. Department of Energy, Albuquerque Operations Office. As a government-owned and contractor-operated facility, the Rocky Flats Plant comprises a portion of the nationwide nuclear weapons production complex.

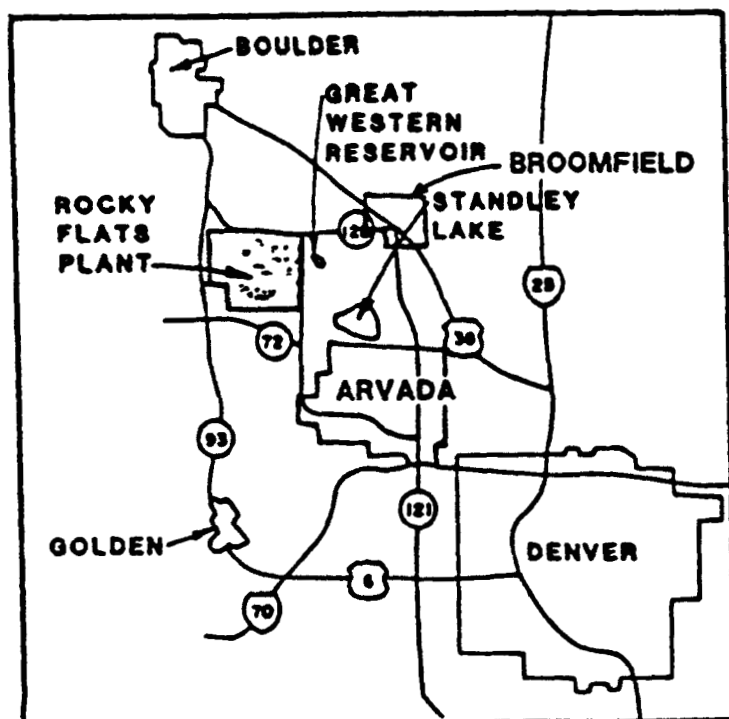
The primary Plant mission is to produce plutonium components for nuclear weapons. Plutonium, uranium, beryllium, and stainless steel parts are fabricated at the Plant and shipped off-site for final assembly. Additional activities include chemical processing to recover plutonium from scrap material, metallurgical research and development, machining, assembly, non-destructive testing, coatings, remote engineering, chemistry, and physics. Waste handling operations at the Rocky Flats Plant include storage, transport, treatment, and packaging of waste materials generated on-site. The waste forms that are handled include hazardous chemical waste, transuranic (TRU) waste, low level radioactive waste, non-hazardous chemical waste, and combinations thereof. Specifically, this Interim Status Closure Plan addresses containerized storage of TRU mixed waste.

1.2 Interim Status Closure Plan Purpose

The intent of this Interim Status Closure Plan is to provide for closure of Building 980, solid waste management unit (SWMU) No. 16 in compliance with Part 265 closure regulations. This plan addresses Colorado Hazardous Waste Regulations under CHWR 265, Subpart G, Closure and Post-Closure; Section 265, Subpart I, Use and Management of Containers, and equivalent Federal regulations.



APPROXIMATE SCALE 1"=3,300'



APPROXIMATE SCALE 1"=40,000'



VICINITY MAP



INTERIM STATUS CLOSURE PLAN
ROCKY FLATS PLANT
GOLDEN, COLORADO

FIGURE 1

2.0 FACILITY DESCRIPTION

2.1 Facility Location and Specifications

Building 980 is located in the northeast portion of the controlled area (Figure 2). Unit 16, an area located southeast of Building 980, provided solid and liquid waste drum storage for oil, solvent, and paint waste. Unit 16 includes a steel cargo container and a "roped" area of ground adjacent and to the east of the container, as illustrated in Figure 3. The cargo container is approximately twenty feet long, eight feet wide, and eight feet high. The cargo container was modified to meet the requirements of 6 CCR 264.17 and 40 CFR 264.175. The dimensions of the "roped" area are approximately ten feet wide and twenty feet long.

2.2 Facility Description

2.2.1 Periods of Operation

Unit 16 had been used to store drummed hazardous waste generated in Building 980 for several years. On May 31, 1988, the Unit 16 drum storage operation was terminated and the inventory removed. The cargo container is currently being used in a 90 day storage unit.

2.2.2 Maximum Waste Inventory

The maximum waste storage capacity of the Unit 16 cargo container is 18 steel drums of 55-gallons each, or five cubic yards of solid and liquid waste.

2.2.3 Types of Waste Managed

Unit 16 was used to store non-radioactive, containerized hazardous waste. The source of this waste was the building 980 construction contractor work area. Paint work, automotive work, and machine work are performed in Building 980 by the operating personnel.

The wastes approved for storage in Unit 16 include: automotive oils, Stoddard solvent, paints and paint thinner, paper and rags contaminated with oils, grease, gasoline, diesel fuel, and solvents. Table 1 lists these wastes by waste stream identification number. These waste stream numbers are a result of a waste stream identification and characterization study conducted at the Rocky Flats Plant in 1986 and 1987. The results of this study are included as part of the RCRA Part B Operating Permit Application for Hazardous and Low Level Mixed Wastes (Rockwell International, 1987).

TABLE 1
WASTES APPROVED FOR STORAGE IN UNIT 16

DESCRIPTION	*WASTE STREAM IDENTIFICATION NUMBERS
Metal Scraps	06500
Rags with Mineral Spirits	06510
Fiberglass Resins and Catalysts	06520
Waste Oil from Threading Machines	06540
Waste Oil	06560
Oily Rags	06570
Oily Rags	06580
Waste Oil and Solvents	06600

* RCRA Part B Operating Permit Application for
US Department of Energy - Rocky Flats Plant
Hazardous and Low Level Mixed Wastes
(December 15, 1987)

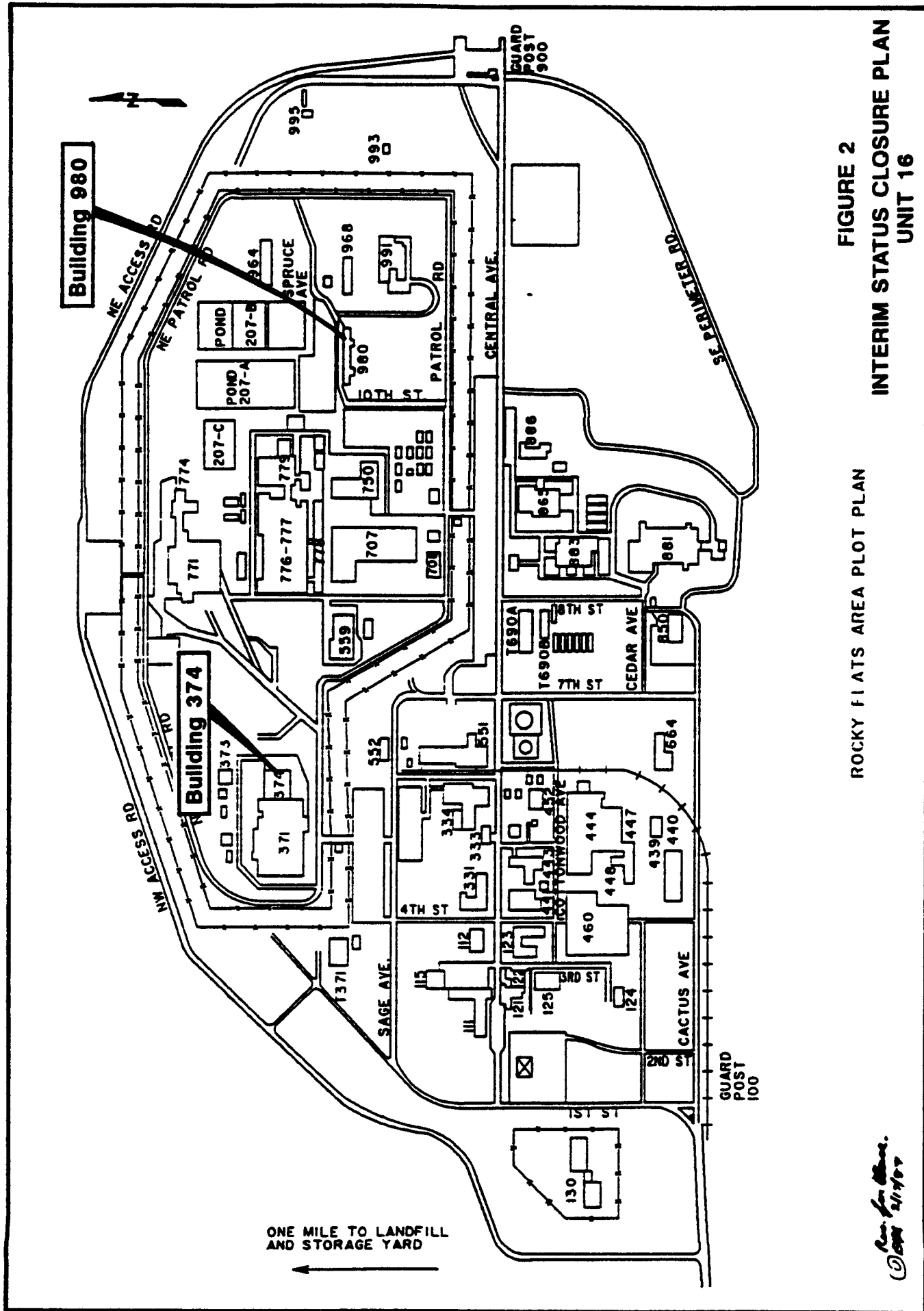


FIGURE 2
INTERIM STATUS CLOSURE PLAN
UNIT 16

ROCKY FLATS AREA PLOT PLAN

Rev. for closure.
© 1994 2/1/94

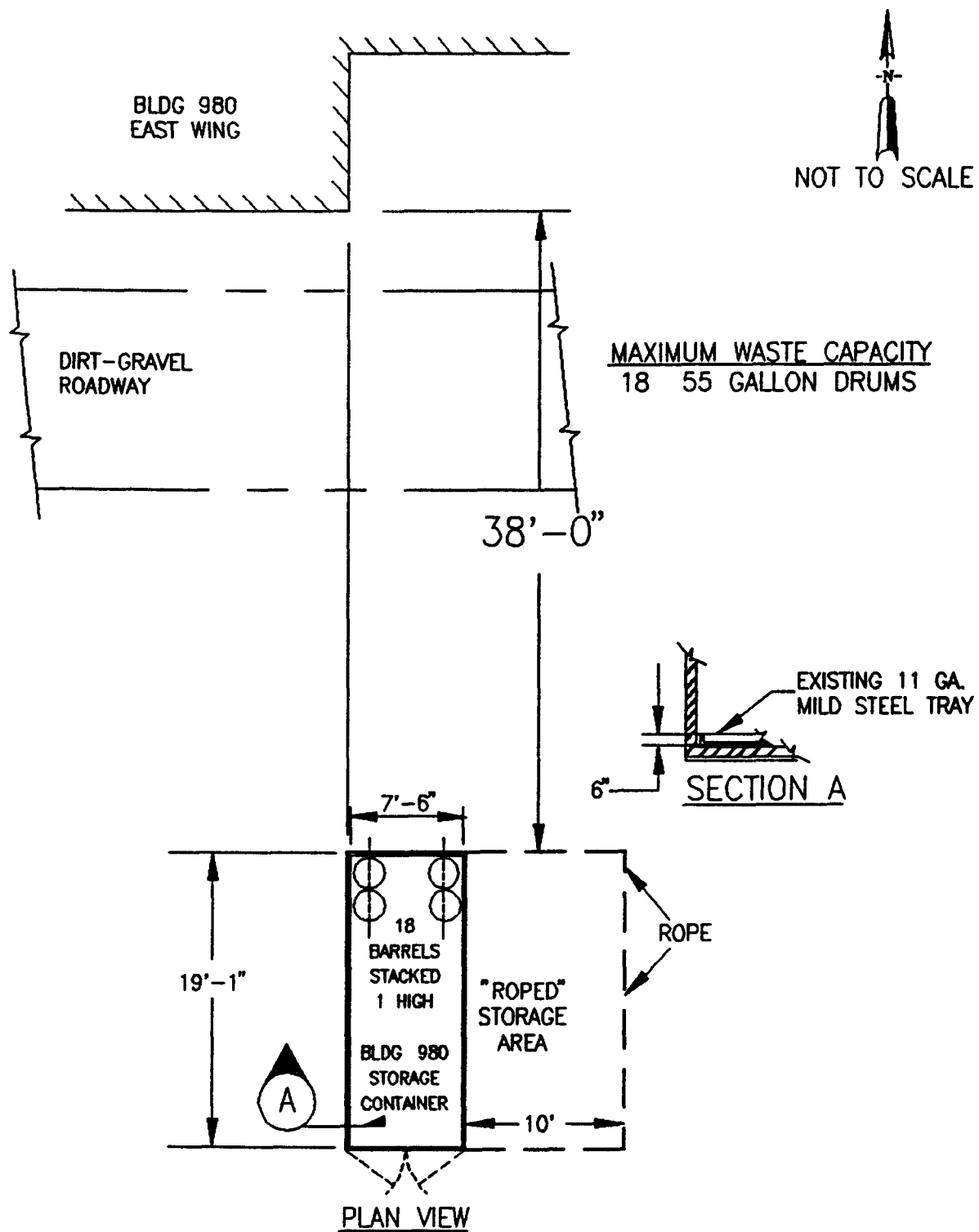


FIGURE 3
UNIT 16 DRUM STORAGE AREA

2.2.4 Waste Handling Description

Unit 16 provided storage for non-radioactive hazardous wastes from Building 980 contractor operations. The solid and liquid wastes were placed in 55-gallon steel drums and transported approximately 100 feet by drum dolly to the Unit 16 cargo container. Rollers within the pallets allowed safe loading and easy movement of the drums within the storage unit. Containerized hazardous liquid and solid waste was also stored on the ground in an area adjacent to the cargo container (See Figure 3).

Routine transfer of the drummed waste was performed by Waste Operations from Unit 16 to Unit 1, Main Hazardous Waste Storage Area. Unit 1 is located on a 25,000 square foot paved pad southwest of Building 559. Unit 1 consists of 24 steel cargo containers for 55-gallon drum storage. Trucks were used to transport the drummed waste from Unit 16 to Unit 1.

2.2.5 Monitoring and Containment Systems

An inner catch basin within the Unit 16 cargo container provided containment for wastes stored in the container. The catch basin dimensions are twenty feet x eight feet x six inches high. All steel drums were stored on roller-pallets, which provide protection from accumulated liquids. A three foot aisle space was maintained to allow access for periodic container inspections. These inspections consisted of visually assessing the structural integrity of the drums and checking for leaks and corrosion.

2.2.6 Releases

According to interviews of Rockwell operations and supervisory personnel, a release of waste from the drums stored in the cargo container has not occurred. Soils in the "roped" area used to store paints, paint thinners, fuels and oils may be contaminated, however, due to spills and leaks from waste containers stored here.

3.0 INTERIM STATUS CLOSURE PLAN SUMMARY

3.1 Closure Activities

This interim status closure plan has been prepared to meet the performance standards of 6 CCR 1007-3, Section 265.111. The promulgated standards require a facility be closed in a manner that

- Minimizes the need for further maintenance, and
- Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to the ground or surface waters or to the atmosphere.

3.2 Interim Status Closure Plan

The progression of activities necessary to complete closure is as follows

- Decontamination of the cargo container
- Sampling of Unit 16 soil to determine the extent of any contamination
- Removal of any Unit 16 contaminated soils
- Decontamination verification
- Certification of closure

It is presumed that decontamination of Unit 16 can be achieved. If decontamination is determined to be impracticable, then an amended closure plan will be submitted within 30 days of this unexpected event.

3.3 Closure Schedule

The CDH and the EPA Regional Administrator will be notified of the intent to close Unit 16 45 days prior to beginning the closure. Decontamination of the unit will be accomplished within 90 days from the beginning of closure.

If the unit is shown to be sufficiently clean after one decontamination, closure will be certified 180 days after closure begins. If decontamination is not achieved at this point, an amended closure plan will be submitted within 30 days after this unexpected event.

3.4 Administration Of Interim Status Closure Plan

The interim status closure plan for the Unit 16 Drum Storage Area will be maintained at the Rocky Flats Area Office, Building 115, U.S. Department of Energy. The person responsible for storing and updating this copy of the closure plan is:

Mr. David P. Simonson, Manager
U.S. Department of Energy
Rocky Flats Plant
P.O. Box 928
Golden, CO 80402
Phone: (303) 966-2025

4.0 REMOVAL OF HAZARDOUS WASTE INVENTORY

Unit 16 currently contains no hazardous waste inventory requiring removal. As of May 31, 1988, all hazardous waste was removed from Unit 16.

5.0 DECONTAMINATION

5.1 Decontamination of Unit 16

Removal of any hazardous waste residues remaining on the surfaces of the cargo container will be accomplished with a wash and triple rinse. The following cleaning solution will be used in the wash: a well mixed solution of four pounds of trisodium phosphate added to ten gallons of organic-free water. This solution is effective in removing waste solvents and waste oil contamination. The wash will be followed by the triple rinse procedure required by 40 CFR 261.7(b)(3) for decontamination of containers or container liners used to store hazardous materials. The rinse water used will be free of organics.

Up to 600 gallons of solution may be generated by one wash and triple rinse of the cargo container. This rinsate will be collected by a vacuum unit and placed in 55-gallon drums or tank truck. The rinsate will then be transferred to Building 374 for treatment.

Decontamination of Unit 16 soils, if required, will be by excavation and off-site treatment. The sampling and analysis procedures that will be used to make a determination of soil contamination are presented in Section 6.0.

5.2 Decontamination Performance Criteria

Decontamination of the cargo container is achieved with the wash and triple rinse procedure described in Section 5.1. The triple rinse procedure is presumed, by RCRA regulations, to be an effective decontamination of containers that have stored hazardous materials which are listed in 40 CFR 261.31, 261.32, and 261.33. This list includes all of the hazardous constituents that may have been stored in Unit 16.

Soils will be considered clean if the levels of the indicator parameters listed below are below EPA Contract Laboratory Program (CLP) Required Quantitation Limits (RQLs). The soil contamination indicator parameters selected are those constituents common to the wastes stored in Unit 16. These include methylene chloride, benzene, ethyl benzene, toluene, xylene, and naphthalene.

5.3 Decontamination of Auxiliary Equipment

The roller-pallets used for drum storage will be decontaminated at a designated washdown area within the cargo container. The wash solution described in Section 5.1 will be used followed by a triple rinse. Rinsate will be collected in approved containers and will be treated on-site at Building 374.

5.4 Decontamination of Equipment Used During Closure

The equipment employed during Unit 16 closure will be decontaminated at a designated washdown area within Unit 16. This equipment includes, but is not limited to, a vacuum unit, wash applicator, drums, and soil sampling materials. Equipment decontamination will be performed in the manner described in Section 5.3.

5.5 Contaminated Soils

Due to the containment features of the storage facility described in Section 2.2.5, there has been no known contamination of area soils as a result of drum storage in the cargo container. There may be contamination of the ground adjacent to the cargo container, however. The sampling and analysis procedures that will be used to make a determination of soil contamination are presented in Section 6.0. If testing indicates contamination, contaminated soils will be excavated and disposed or treated off-site.

5.6 Removal of Hazardous Waste Residues

Approximately 600 gallons of waste may be generated by decontamination of the cargo container. The waste will be collected and placed in 55-gallon drums or a tank truck. The effluent contained in the drums or tank truck will be transferred to Building 374 for treatment.

6.0 SAMPLING AND ANALYTICAL METHODS

6.1 Sampling Procedures

Soil sampling to determine the extent of any of soil contamination associated with Unit 16 waste storage will be performed in two parts. First, a photoionization detector will be used to determine the presence of volatile organics in the ambient air above Unit 16 soils. This data will aid in selection of the soil sampling points. A minimum of five sample locations will be established. This number of locations, based upon an EPA study (EPA, 1983), will provide approximately a 90% confidence level of finding contamination present in the soil. The sample location strategy will include both target and random sampling. Target samples will be located in areas that have exhibited volatile organics in the ambient air, above the soil, or stained areas. If less than five target locations are identified, then random samples will be taken to increase the total number of sample locations to five. At identified soil sampling locations, soil samples will be taken as a surface scrape, a six to twelve inch composite, and an eighteen to twenty one inch composite.

If soil excavation is conducted, verification samples will be collected. These soil samples will be collected from approximately the middle of the horizontal edges of the excavation, and from approximately the center of the bottom of the excavation. A minimum of five samples will be collected. If these samples are uncontaminated, then clean closure can be certified.

6.2 Analytical Methods

EPA Contract Laboratory Program procedures will be used for sample preparation and indicator parameter analysis (EPA, 1988)

7.0 CLOSURE SCHEDULE

The CDH and the EPA Regional Administrator will be notified of the intent to close Unit 16, 45 days prior to beginning the closure. Decontamination of the unit will be accomplished within 90 days from the beginning of closure.

If the unit is shown to be sufficiently clean after one soil excavation, closure will be certified 180 days after closure begins. If testing of the excavated area indicates contamination is still present, the closure schedule will be amended within 30 days of this unexpected event.

8.0 CLOSURE COST AND FINANCIAL ASSURANCE

State and Federal governments are exempt from the financial requirements imposed by Subpart H of 6 CCR 1007-3, Section 265.140(c). Because the Rocky Flats Plant is a federally-owned facility, no cost estimates or financial assurance documentation is required.

9.0 SITE ACCESS AND SECURITY

Access to the work area will be limited to authorized personnel only. Exit from the working area will be through a clean, restricted area in the decontamination area. Existing security measures at the Rocky Flats Plant meet the requirements of 6 CCR 1007-3, Section 265.14. These include:

- A three-strand barbed-wire cattle fence surrounding the facility posted to identify the land as a government reservation/restricted area,
- A fence and armed guards posted 24 hours daily at two gates to the controlled area of the facility, and
- Surveillance by security cameras 24 hours daily.

Existing fences and gates are operated and maintained by DOE. Maintenance requirements will be performed by DOE regardless of closure activities at the site.

10.0 HEALTH AND SAFETY

A site-specific Health and Safety Plan covering decontamination and closure of the site will be submitted to the CDH two months before closure activities begin. The plan will comply with all Occupational Safety and Health Administration (OSHA), CDH, EPA and DOE requirements.

11.0 POST-CLOSURE MONITORING

The implementation of unit-specific post-closure monitoring is not expected to be necessary due to the contained nature of the cargo container and the soil remediation actions that will be taken, if any.

12.0 CLOSURE CERTIFICATION

After completion of closure, the owner or operator and an independent certified registered engineer will submit certification of closure, based upon compliance with the closure plan, to the CDH and the EPA Regional Administrator

The independent registered professional engineer will periodically review the closure operations in enough detail to assure final certification of closure. The final certification of closure will state that the closure procedures and standards have been carried out as described in the approved closure plan. In order to certify the performance and completion of closure activities, the independent registered professional engineer will review test results and inspect the site to verify the closure plan was carried out as approved. Both the operator and the independent registered professional engineer will submit a written document to the CDH and the EPA Regional Administrator to certify closure activities were conducted in accordance with the approved closure plan.

13.0 REFERENCES

Rockwell International Corporation 1988 Resource Conservation and Recovery Act Part B - Operating Permit Application Rocky Flats Plant Hazardous and Low Level Mixed Wastes Volumes I through VII U.S. Department of Energy, Golden, Colorado, December 15, 1987

Rockwell International Corporation "Background Hydrochemical Characterization and Monitoring Plan, January 1989 "

US Environmental Protection Agency. 1988 Contract Laboratory Program Statement of Work for Organics Analysis, Multi-media, Multi-concentration, February 1988

US Environmental Protection Agency 1983 "Preparation of Soil Sampling Protocol Technique and Strategies," EPA-600/4-83-020, 1983)